32.

FORTY-EIGHTH

ANNUAL REPORT

OF THE

MASSACHUSETTS CHARITABLE EYE AND EAR INFIRMARY.

1874.

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1874.

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OF THE

MASSACHUSETTS

CHARITABLE EYE & EAR INFIRMARY.

1873-74.

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REPORT OF THE PRESIDENT

OF THE

MASSACHUSETTS
CHARITABLE EYE AND EAR INFIRMARY

TO THE MANAGERS.

1873.

Gentlemen: — In reviewing the charitable work of the Eye and Ear Infirmary during the past year, we find added proof of the public value of such an institution, — a value which can hardly be overestimated when we consider the rapid growth of the city and the constant increase of a working population dependent upon daily labor for its support. A reference to the table of statistics shows an increase in the whole number of patients as compared with the previous year. The whole number treated in 1872 was 5,975, and in 1873, 6,283. Of these numbers 2,709, or about 45.3 per cent in 1872, and 3,223 or nearly 52 per cent in 1873, were from Boston alone. The percentage from Massachusetts remains nearly the same, that is, from 93 to 95 per cent. Aside from the facts presented in the tables of the Report of the Board of Surgeons, the records of the year show that the patients presenting themselves for treatment, while including many of the very poor, were largely of the artisan class, laborers and mechanics among the men, and shop-girls and needlewomen among the women, — a class of patients to whom the ability to work means not only the maintenance of themselves, but often that of others dependent upon them. It is through this class that such an institution renders the greatest service to the community at large, and it is this class which, with each succeeding year, avails itself in increasing numbers of the service which the Eye and Ear Infirmary is happily able to render.

The above figures not only represent more eloquently than words can do the charitable work of the Infirmary for the past year, but they also show the amount of labor which the staff of surgeons has performed. It is not to be forgotten in this connection, that all this labor is not only cheerfully but gratuitously rendered. No salary is attached to the post of surgeon in the Eye and Ear Infirmary; each member of the staff gives his services to the institution, and so renders the community his debtor.

The following extract from the report of the surgeons presents in detail the work of the past year: —

"The whole number of persons applying for relief has been 6,283. This is an increase of 308 over the year preceding, the total for that year having been 5,975 (*vide* 46 Annual Report). These persons have presented a great variety of disease. On looking over the list for the eye, it will be noticed that affections of the conjunctiva are by far the most frequent, constituting a large proportion of the whole number. This delicate membrane, investing the exterior of the eyeball and inner surface of the lids, is particularly liable to suffer from out-door exposure or the effects of an impure atmosphere. The dwellings of the poor, placed in unhealthy situations, overcrowded and imperfectly ventilated, present nearly as irritating influences as the vicissitudes of the weather, to which their occupants are so often exposed. Hence, children, in these localities, suffer largely from this disease as well as adults. Fortunately, conjunctival inflammation, if taken in due season, is very amenable to treatment; in proportion as it is neglected, however, it becomes more and more difficult of cure; and when suffered to go on unchecked leads to inflammation of other tissues, and consequent danger to sight. Some of the most hopeless and trying cases of eye-disease are instances of this neglect.

The large number of injuries to the eye will attract attention. The peculiar dangers to which a certain class of mechanics is exposed will be seen by looking under this head, where, in addition to a variety of other accidents, 343 cases of foreign body on the cornea are recorded. These foreign bodies are in most cases fragments of emery, iron, or steel, driven into the eye with sufficient force to imbed them in the tissue of the cornea. Stone-cutters, machinists, and all workers in metals are especially liable to suffer from such accidents. Whatever the offending substance may be, it usually gives rise to so much pain and irritation that relief is sought for at the earliest opportunity. If not promptly removed, serious and destructive inflammation is often the consequence.

There has been a large increase the past year in the number of patients with troubles of refraction and accommodation. Of these there were 396, while for the twelve months preceding the total was 271, as shown by report for that year. These affections are characteristic of those trades and occupations which require close and prolonged application of the eyes. Sewing-women belong to this class, and form a large majority of those who appear at the Infirmary for these troubles. Often unable to obtain other employment, the needle is their only means of support, and they are especially helpless when, from overtaxing, continued use of the eyes becomes impossible. In many of these cases, ability to resume work is obtained by means of glasses properly adapted to the special requirements of the eye. Unless so adapted, they are not only useless but injurious.

To speak in detail of the remaining diseases on the list would consume a large amount of time and space. There are many of them of great medical interest, requiring patient investigation and careful treatment, and would demand a minute description. The comments made above are merely to indicate some of the more prominent features of the work accomplished and the classes benefited thereby. The number of operations performed has been 340. From among these the cataract extractions, as being especially interesting and important, have been selected for extended notice.

There have been 69 of these operations. The results of 66 are presented in a separate table. Of the 3 remaining, 2 were linear and 1 by suction method. Of the linear extractions, case 1 was that of a female, aet. 21. Soft cataract. October 22, 1872. A linear incision combined with iridectomy was made, and lens removed. Capsule appearing thickened, an opening was broken through it by the cystitome. There was slight escape of vitreous, November 22. A month later, vision with a No. 3 convex glass was $\frac{10}{30}$. No. $2\frac{1}{2}$ of Snelling's test type could be read with convex glass No. $2\frac{1}{2}$. Case 2 was a male, aet. 28. Traumatic cataract. June 19, 1873. A partially soft lens, removed, through a linear incision. No iridectomy. Large piece of capsule also removed. July 24, 1873, vision with convex glass No. 4 was $\frac{20}{20}$. August 24, 1873, vision with convex glass No. $3\frac{1}{2}$, $\frac{20}{20}$.

The case in which suction was employed was that of a man, aet. 30. The right eye had been operated on, some years before, by an irregular practitioner Apparently reclination had been done. There was irido-choroiditis present. Vision was lost. The left eye presented a well-formed cataract. The lids of both eyes were granular. After a course of treatment to subdue the granulations, on August 11, 1873, a bent, broad needle was passed through the cornea, two lines outward from its centre, and the capsule lacerated. The needle was withdrawn without loss of aqueous. The point of suction instrument was then passed into lens, and suction made gently by the mouth. The lens substance flowed out readily, leaving a fair black pupil. The cornea collapsed immediately after withdrawing the instrument. No pain followed. Wound healed rapidly. August 23, vision was $\frac{10}{80}$, a result, under the circumstances, particularly gratifying." *

The following extract from the treasurer's report exhibits the financial condition of the Infirmary. The liberal appropriation of the State, and the legacies to the institution which have been received during the past year, have added largely to its efficiency; but even these are insufficient to meet the demands that are made upon it. We confidently hope that others will follow the example of those whose generous remembrances are recorded by the treasurer, and thus enable the Infirmary to do all the work that is required of it, and to do this work in the best way.

"We are relieved from the straightened circumstances which brought us to consider, in the last Annual Report, the possibility of having to contract the operations of the Infirmary, to bring them within the means at hand. And the way in which this relief has come is gratifying, as it assures our faith that private benevolence will not fail to

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* For the benefit of those not especially acquainted with the subject, it may be briefly explained that the amount of vision is measured by the ability to read letters of a certain size, at a certain distance. Thus the letters numbered 20 on the scale employed should be read by a normal eye at 20 feet. In such a case, vision equals $\frac{20}{20}$, or 1. The letters numbered 80 on the scale should be read at 80 feet. If read at 10 feet, vision equals $\frac{10}{80}$, or $\frac{1}{8}$. It should be added that many kinds of labor can be performed with vision far below what is taken as the normal standard. Of course, the place of the absent lens has to be supplied by a suitable convex glass.

supply the means, not only for its support, but for the extension of its charitable work."

"Besides the liberal appropriation by the State of $10,000 we have received $22,000 from the executors of the late Benjamin Hudson, the income of which will be available for current expenses. This unexpected bequest is by one who was moved to make this bestowal of a large portion of his estate by an appreciation of the importance and worth of the Infirmary, on self-judgment rather than from personal representations of any one specially interested in it. The usefulness and the needs of this charity furnished the sufficient appeal. Another accession to our funds, of $1,000, comes from the executors of the late John A. Blanchard."

Appended herewith are the statistics of both the Eye and Ear Patients of the Infirmary. The statistics of diseases of the Eye are followed by an interesting paper by Dr. H. Derby on the cataract operations performed by the surgeons during the past year at the Infirmary, which exhibits the degree of success that has attended these operations, and is an important contribution to the statistics of ophthalmology. The statistics of diseases of the Ear are followed by some valuable explanatory notes by Dr. C. J. Blake, which indicate the advance that aural surgery is now making.

EDWARD H. CLARKE, *President.*

STATISTICS.

CLASSIFICATION OF PATIENTS, DISEASES, AND OPERATIONS.

Out-Patients.

Whole No. eye patients	4,602
" ear "	1,681
Total eye and ear patients	6,283
Males	3,469
Females	2,814
Residents of Boston	3,223
" other parts of Massachusetts	2,627
" Maine	129
" New Hampshire	113
" Vermont	33
" Rhode Island	21
" Connecticut	8
" other States	27
" British Provinces	32
" Foreign countries	3
Unrecorded	67
	6,283

House Patients.

Males	243
Females	186
	429

Out-Patients (continued).

Eye patients —		
Males	2,501	
Females	2,101	
		4,602
Ear Patients —		
Males	968	
Females	713	
		1,681
Total		6,283

DISEASES OF THE EYE.

Lids.

Erysipelas	6
Eczema	8
Abscess	19
Blepharadenitis	215
Hordeolum	31
Chalazion	69
Ectropium	7
Entropium	9
Trichiasis	29
Distichiasis	1
Ptosis	7
Symblepharon	6
Œdema	9
Epithelioma	3
Warts	7
Nævus	2
Xanthelasma	2
Lupus	2
Herpes Zoster Opthalmicus	2
Ulcer	2
Herpes	2

Rodent Ulcer	2
Tumor	10
Furuncle	2
Blepharitis	1

Conjunctiva.

Conjunctivitis, catarrhal	603
“ blenorrhoic	13
“ “ neonatorum	12
“ granular and pannus	269
“ phlyctenular	227
Ecchymosis	22
Pterygium	23
Pinguecula	6
Œdema	4
Tumors	1
Abscess	1
Hyperæmia	38
Discoloration of conjunctiva from nitrate of silver	1
Ophthalmia, gonorrhœal	5

Cornea and Sclera.

Keratitis	243
“ interstitial	13
“ traumatic	6
Abscess of cornea	9
Ulcer “ “	348
“ “ “ vascular	14
Leucoma	127
Staphyloma anterior	13
Keratoconus	21
Deposit of lead	2
Sclero-keratitis	4
Episcleritis	2
Scleritis	4
Rupture of sclera	1

Iris.

Iritis, rheumatic	142
“ syphilitic	14
“ traumatic	13
Prolapse	10
Dialysis	1
Wound of	1
Foreign body on	1
Coloboma	2
Mydriasis	10
Posterior synechia	13
Anterior “	4

Choroid.

Choroiditis	19
“ disseminata	4
Sclerotico-choroiditis, posterior	12
Irido-choroiditis	17
“ “ sympathetic	9
Glaucoma	20
Suppurative choroiditis	6
Staphyloma	1
Sarcoma	1
Albinism	1

Retina.

Hyperæmia	3
Retinitis	7
“ albumenurica	6
“ pigmentosa	4
“ apoplectica	3
Separation of	13
Hyperæsthesia	3
Glioma	1
Œdema	1

Optic Nerve.

Congestion of disc	16
Neuro-retinitis	25
Atrophy	39
Neuro-retinitis specific	1

Vitreous.

Membrane and opacity of	15
Foreign body in vitreous and globe	7

Lens.

Cataract, hard and soft	108
“ incipient	20
“ congenital	7
“ traumatic	27
“ capsular	6
“ posterior polar	3
Dislocation of	10
“ of congenital	1

Lesions of Globes.

Mikrophthalmus	1
Hydrophthalmus	2
Phthisis bulbi	49
Exophthalmus	3
Intraocular tumor	2

Affections of Percipient Apparatus.

Amblyopia	74
Amaurosis	4
Hemeralopia	4
Nyctalopia	2
Amblyopia ex abusu	34
Muscæ volitantes	27

Refraction and Accommodation.

Myopia	100
Hypermetropia	128
Astigmatism	3
Presbyopia	42
Asthenopia	123

Muscular Affections and Neuroses.

Paralysis and paresis, 6th pair	2
“ facial	3
Diplopia	13
Strabismus convergens	79
“ divergens	16
Ciliary neuralgia	14
Insufficiency internal recti	2
Blepharospasm	7
Nystagmus	7
Neuralgia, 5th pair	6

Lachrymal Apparatus.

Epiphora and obstruction of lachrymal ducts	88
Affections of lachrymal passages	108
Eversion of punctum	5

Orbit.

Abscess of	1
Cyst “	1

General Injuries.

Foreign bodies on conjunctiva	22
“ “ “ cornea	343
“ “ “ sclera	4
Burns	40
Blows and cuts	148

Abrasion of cornea	2
Unrecorded	64
Unfit	59

Recapitulation of Diseases of the Eye.

Lids	453
Conjunctiva	1,225
Cornea and sclera	787
Iris	211
Choroid	90
Retina	41
Optic nerve	81
Vitreous	22
Lens	182
Globe	57
Percipient apparatus	145
Refraction and accommodation	396
Muscular affections and neuroses	149
Lachrymal apparatus	201
Orbit	2
General injuries	682
Unrecorded	64
Unfit	59
	4,847

The seeming discrepancy in the number is accounted for by some of the patients presenting different forms of disease in the same eye.

OPERATIONS ON THE EYE.

Cataract.

Extraction, Method of Graefe, cataract senile	57
" " " traumatic	4
" " " soft	2

Extraction Method of Graefe, cataract shrunken,	1	
“ “ “ following irido-choroiditis	2	
Extraction Method of Liebreich, cataract senile	2	
“ Linear, “ soft	2	
Extraction by suction, “ “	1	
“ of dislocated lens	4	
Discission, of cataract congenital	10	
“ “ traumatic	1	
	—	86
Removal of opaque capsule	14	
Noyes’ double hook operation	2	
	—	16

Iridectomy.

For artificial pupil	39	
“ irido-choroiditis	3	
“ glaucoma	9	
“ iritis, old	3	
“ anterior staphyloma	1	
“ sclerokeratitis	1	
	—	56

Enucleation of Eye.

For sympathetic ophthalmia	14	
“ hydrophthalmus	2	
“ disorganized eye	8	
“ intraocular tumor	2	
	—	26

OTHER OPERATIONS.

Passavant’s operation for posterior synechiæ	4
Removal of hernia of iris	5
“ anterior staphyloma	2
For cystoid cicatrix	1
Pterygium, Desmarre’s operation (transplanting)	7
“ removal of (excision)	1

Tattooing of cornea	3
Paracentesis of cornea	4
Strabismus convergens	32
“ “ with external suture	12
“ “ secondary operation for	1
“ divergens	1
“ “ with internal suture	1
“ “ bringing forward int. rectus	1
Entropion	1
Trichiasis	23
“ Arlt’s operation for	4
“ Critchett’s “ “	6
Symblepharon, Teale’s operation for	1
Canthoplasty	6
Plastic of lids	2
Chalazion	17
Epithelioma of lid	2
Abscess of orbit, with caries	1
“ “	1
Tumor “	1
Miscellaneous	16
	—156
Total	340

REPORT ON SIXTY-SIX CATARACT EXTRACTIONS, BEING THOSE DONE BY THE METHODS OF VON GRAEFE AND LIEBREICH.

Performed at the Massachusetts Charitable Eye and Ear Infirmary, Boston, between October 1*st*, 1872, *and October* 1*st*, 1873, *by the Surgeons of the Infirmary.*

By Hasket Derby, M. D.

With two exceptions, these cases were all operated on according to the method of Von Graefe, and the preference of the surgeons of the institution for this operation may be inferred from the fact that they have, within two years, employed it 128 times. Each case has been carefully recorded, its after treatment noted, and the vision, at the time of leaving the house, estimated, generally by the operator himself. The date of testing vision has been entered on the table in every instance, and the possibility of subsequent improvement will of course be borne in mind.

3 cases were traumatic, 2 were dependent on manifest choroidal disease, and 2 occurred in young subjects of respectively 24 and 26 years. The senile cataracts proper were 59 in number, one of them being immature and 2 hypermature. 44 of these recovered vision of at least $\frac{1}{10}$, which fraction has been, with what justice each must decide for himself, taken by various ophthalmic surgeons as the measure of a full success. 6 recovered useful vision, — a vague term, which we may take to mean the ability to at least go about unattended. 7 were to return for a secondary operation. Of these, 6 had suffered from iritis, and consequent closure of the pupil, but everything promised an

ultimate restoration of vision when the iridectomy or capsule operation should have been performed. In the remaining case (No. 52), irido-choroiditis came on after the discharge, which had taken place at the patient's own request and in opposition to the earnest wish of the surgeon. He returned but once, and was then lost sight of. The ultimate issue was doubtful. Finally, two entire failures occurred (cases 11 and 42), and the record gives, in the former instance at any rate, a sufficient reason for the result which was, from the first, apprehended.

The remaining 7 operations were performed on 3 traumatic cataracts, 2 resulting from tangible choroidal disease, 1 unripe at 26, and 1 shrunken at 24, with the following results :

Traumatic.	*Choroidal Disease.*	*Unripe.*	*Shrunken.*
$V = \frac{20}{20}$	$\frac{2}{80}$	$\frac{20}{30}$	$\frac{20}{60}$
$V = \frac{20}{100}$	$\frac{1}{\infty}$		
* Still under treatment.			

These 7 operations are, for obvious reasons, to be entirely separated from the 59 for senile cataract; and their results are not given for the sake of any direct evidence they offer in favor of the peripheric linear method.

57 of the operations for senile cataract were done according to the method of Von Graefe, 2 by that of Liebreich. The first of the latter was able to leave the house in twenty-one days with an anterior synechia and a vision of $\frac{15}{100}$. In the second, a large prolapse of the iris was excised five days after the operation, convalescence lasted nineteen days, and vision was $\frac{15}{80}$ at the end of that time. Our experience here, as well as in private practice, has given us no ground for abating our theoretical objections to this method. A failure to remove the entire corti-

cal substance and prolapse of the iris are the accidents most to be dreaded, the latter especially in a country where anæsthesia is so justly considered nearly indispensable to both patient and surgeon.* Whether general muscular relaxation favors prolapse of the iris or not, the straining consequent on nausea unquestionably predisposes to it, and while nausea is of frequent occurrence we can call to mind no instance in which it has proved injurious after the performance of Von Graefe's operation.

The cases here analyzed occurred during the terms of service of six separate surgeons, and can hence hardly be said to have been operated on in an absolutely uniform manner. The only serious divergence, however, from the general plan laid down by our illustrious master has been, especially of late, in the direction of the modifications practised by De Wecker, such as a slightly greater departure from a linear cut, the removal of a smaller piece of iris, and the non-instillation of atropine either before or after the operation, unless demanded by some inflammatory complication. We all adhere, substantially, to the peripheric linear method.

Hemorrhage into the anterior chamber during the operation was a not infrequent accident, and always readily controlled by the application of soft, moist sponges, that had been kept in contact with a lump of ice. Vitreous was lost in 7 cases, generally in small amount. It presented, but did not escape, in 3 others, and in 2 of these the lens had to be removed by means of a scoop, to avoid the threatened accident. In short, prolapse of vitreous has been noted but 12 times in 128 of Graefe's operations done at the Infirmary during the last two years; sympathetic ophthalmia has not once resulted from this form of extraction. These facts are cited to aid in disposing of two objections that have been made to the method, and to show that these accidents are at least as little likely to occur as after ordinary flap extraction. With reference to the subsequent development of pupillary obstructions, and to the increasing density of membranes that seem to form some time after the original operation, candor compels the writer, individually, to draw a comparison somewhat unfavorable to Graefe's method, as far, at least, as his experience has gone. This amounts only to the expression of an opinion that a flap operation *that succeeds* does somewhat better, subsequently, than the other, a greater risk being taken for the sake of an increased gain.

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* Ether was administered in all the operations here reported on.

Where the cataract was double, a reasonable interval was, in every case, allowed to elapse between the two operations.

Iritis occurred in 7 instances and caused closure of the pupil in 6 of these. As has been already stated a secondary operation promises in each a good result, and it is much to be regretted that the stated time at which this report must appear prevents our carrying out the history of these cases.

The results of vision are as follows:—Each fraction is given as recorded, and, except in one instance ($V\frac{1}{24}$) expresses the distance from the test in which the patient actually stood. Snellens and Dyer's types were the test employed, appropriate convex glasses were of course used. The propriety of not reducing the fractions to their lowest terms will be manifest on reference to the table, where it is seen that patients who made out XXX in 10′ could not distinguish LX in 20′; those who saw XL in 10′ lost sight of XX in 80′, etc. The uncertainty of testing for the near, *i. e.* of expressing vision by the size of the type made out at a reading distance, is seen by referring to cases 40 and 41. Both read Snellen 1½, yet one had $V\frac{20}{80}$, the other $V\frac{20}{30}$; case 45 has V$\frac{20}{40}$, reads Snellen 2; while case 60 has V$\frac{40}{80}$ and reads Snellen 1½.

$\frac{20}{20}$	1	$\frac{20}{100}$	11
$\frac{20}{30}$	2	$\frac{15}{80}$	1
$\frac{20}{40}$	3	$\frac{15}{100}$	1
$\frac{14}{30}$	1	$\frac{10}{80}$	4
$\frac{15}{40}$	2	$\frac{10}{100}$	5
$\frac{20}{60}$	2	$\frac{8}{100}$	1
$\frac{10}{30}$	1	$\frac{5}{80}$	1
$\frac{15}{50}$	1	$\frac{10}{200}$	1
$\frac{20}{80}$	4	$\frac{1}{24}$	1
$\frac{10}{40}$	2	$\frac{2}{100}$	1
$\frac{5}{20}$	1	$\frac{1}{\infty}$	8
$\frac{12}{50}$	1	$\frac{1}{0}$	2
$\frac{15}{70}$	1		59

No.	Sex.	Age.	Nature of Cataract.	Date.	Operation.	Remarks.	Duration of Treatment.	Result.
1	F.	55	Senile.	Oct. 8, '72.	Normal.		20 days.	$V = \frac{10}{40}$. (Oct. 28.)
2	F.	62	Senile.	Nov. 15, '72.	Normal.		18 days.	$V = \frac{20}{100}$. Reads Sn. 2. (Dec. 3.)
	M.	80	Senile.	Oct. 22, '72.	Some cortical left behind.		8 days.	$V = \frac{20}{60}$. Sn. 2. (Dec. 7.)
4	M.	60	Senile.	Nov. 15, '72.	Slight loss of vitreous.	Iris healed into wound, causing some irritation and protracting convalescence.	14 days.	$V = \frac{10}{100}$. Sn. $3\frac{1}{2}$. (Dec. 15.)
5	M.	50	Senile.	Nov. 15, '72.	Operation very difficult, owing to deep-set position of the eye.	Patient restless and frequently removed bandage. Irritative iritis followed, closing pupil. To return for secondary operation.	64 days.	$V = \frac{1}{8}$. (Dec. 29.)
6	M.	51	Senile.	Nov. 16, '72	Liebreich's operation; much cortical left behind.	A slight anterior synechia resulted. At time of discharge, much capsule in pupil. To return for a secondary operation.	21 days.	$V = \frac{15}{100}$. Sn. 2. (Dec. 7.)
7	M.	45	Resulting from old disease of choroid of 25 years' standing.	Dec. 6, '72.	Much opaque capsule removed.	Projection only outwards. Operation done only at request of patient.	14 days.	$V = \frac{2}{80}$. (Dec. 20.)

8	M.	53	Senile.	Dec. 20, '72.	Lens removed with scoop, in its capsule, a slight loss of vitreous taking place before excision of iris.		42 days.	$v = \frac{20}{20}$. Sn. $1\frac{1}{2}$ (April 17.)
9	F.	50	Senile.	Dec. 25, '72.	Liebreich's operation. A prolapse was found, five days later, to exist and was excised.		19 days.	$v = \frac{15}{80}$. Sn. $2\frac{1}{2}$ (Feb. 27.)
10	F.	68	Senile.	Dec. 30, '72.	Normal.	Very restless during after treatment.	15 days.	$v = \frac{10}{40}$. Sn. 2 (Jan. 14.)
11	M.	78	Senile.	Jan. 1, '73.	Normal.	Patient in feeble health, childish, and with an intermittent pulse. Operation at first declined, done finally at his urgent request. Panophthalmitis resulted.	45 days.	$v = \frac{1}{0}$. (Feb. 15.)
12	F.	44	Senile.	Jan. 16. '73.	Normal.	Patient childish, constantly removed bandage to "feel whether eye had healed." Kerato-iritis and closure of pupil resulted. Ordered to return for a secondary operation.	27 days.	$v = \frac{1}{\infty}$. (Feb. 11.)

No.	Sex.	Age.	Nature of Cataract.	Date.	Operation.	Remarks.	Duration of Treatment.	Result.
13	M.	52	Result of irido-choroiditis.	Feb. 10, '73.	Normal.	No projection was made out before operation.	19 days.	v = $\frac{1}{\infty}$. (Feb. 24.)
14	M.	60	Senile.	Feb. 24, '73.	Normal.	Iritis resulted in closure of pupil. Double hook operation, June 19.		v = $\frac{20}{100}$. (Aug. 28.)
15	F.	40	Senile.	Feb. 26, '73.	Normal.		12 days.	v = $\frac{20}{100}$. (March 10.)
16	M.	60	Senile.	Mar. 16, '73.	Normal.		13 days.	v = $\frac{15}{40}$. (May 1.)
17	M.	24	Traumatic.	Mar. 14, '73.	Normal.		6 days.	v = $\frac{20}{20}$. Sn. $1\frac{1}{2}$ (March 27.)
18	M.	57	Senile.	Mar. 19, '73.	Normal.		23 days.	v = $\frac{20}{100}$. Sn. $2\frac{1}{2}$ (April 9.)
19	F.	47	Senile.	Mar. 25, '73.	Slight loss of fluid vitreous.	Lens shrunken, iris tremulous, central and lateral projection very uncertain.	10 days.	v. cannot be measured on letters. Can get about alone with this eye. (Sept.)

20	F	66	Senile.	April 3, '73.	Much hemorrhage into anterior chamber. Vitreous presented and cortical substance had to be left.		13 days.	$v = \frac{20}{100}$. (May 3.)
21	F.	66	Senile.	April 16, '73.	Cortical left behind, owing to danger of escape of vitreous.	At time of discharge the cortical substance in anterior chamber was rapidly absorbing.	17 days.	$v = \frac{8}{100}$. (May 3.)
22	F.	63	Senile.	April 7, '73.	Normal.	Iritis occurred, without apparent cause, on 6th day, causing closure of pupil. Iridotomy done Sept. 22. Vision daily improving at time of discharge.	30 days.	$v = \frac{1}{8}$. (Oct. 4.)
23	M.	52	Senile (shrunken, dating back 10 years).	Apr. 11, '73.	Scoop used to prevent threatened escape of vitreous, which, notwithstanding, escaped in considerable quantity.	Threatened corneal suppuration.	19 days.	$v = \frac{1}{24}$. (May 1.)
24	F.	40	Senile (hard).	Apr. 18, '73.	Normal.		20 days.	$v = \frac{20}{100}$. (May 27.)

No.	Sex.	Age.	Nature of Cataract.	Date.	Operation.	Remarks.	Duration of Treatment.	Result.
25	F.	50	Senile.	Apr. 29, '73.	Some cortical left in pupil, to avoid risk of loss of vitreous.		32 days	$v = \frac{20}{40}$. (May 31.)
26	F.	50	Senile.	Apr. 29, '73.	Normal.		19 days.	$v = \frac{20}{30}$. Sn. 1. (May 18.)
27	F.	65	Senile.	May 3, '73.	Much vitreous lost. Scoop had to be introduced several times.	Iritis 5th day, causing closure of pupil. Very good perception of light at time of discharge; to return for secondary operation.	26 days.	$v = \frac{1}{\infty}$. (May 27.)
28	M.	59	Senile.	May 2, '73.	Vitreous presented. To avoid its escape, scoop was introduced, and lens removed in its capsule.	Some floating opacities in vitreous at time of discharge.	23 days.	$v = \frac{20}{80}$. Sn. $4\frac{1}{2}$. (May 25.)
29	M.	47	Senile.	May 10, '73.	Normal.		16 days.	$v = \frac{20}{80}$. Sn. 8. (May 26.)
30	M.	79	Senile.	May 10, '73.	Normal.	Thickened capsule in pupil. Secondary operation Sept. 6.	13 days.	$v = \frac{10}{100}$. Sn. 12. (Sept. 13.)

31	F.	65	Senile.	May 10, '73.	Normal.		12 days.	$v = \frac{15}{70}$. (June 17.)
32	F.	65	Senile.	May 20, '73.	Slight loss of vitreous, some cortical left behind.	Pupil filled with capsule. Agnew's operation Sept. 20.	29 days.	$v = \frac{10}{100}$. (Sept. 29.)
33	F.	63	Senile.	May 9, '73.	Normal.		22 days.	$v = \frac{20}{40}$. (May 31.)
34	F.	26	Unripe.	May 16, '73.	Some opaque capsule left behind.	V. at time of discharge, only $\frac{15}{70}$.	15 days.	$v = \frac{20}{30}$. (Oct. 6.)
35	M.	60	Senile.	May 21, '73.	Normal.		11 days.	$v = \frac{20}{100}$. (June 9.)
36	M.	60	Senile.	May 27, '73.	Normal.		13 days.	$v = \frac{20}{100}$. (June 9.)
37	M.	66	Senile.	May 22, '73.	Normal.	Iritis 14th day.	28 days.	$v = \frac{10}{100}$. Sn. 9. (June 19.)
38	F.	53	Senile.	May 21, '73.	Normal.		12 days.	$v = \frac{20}{100}$. (June 17.)
39	F.	53	Senile (unripe).	May 27, '73.	Normal.		20 days.	$v = \frac{20}{100}$. (June 17.)

No.	Sex.	Age.	Nature of Cataract.	Date.	Operation.	Remarks.	Duration of Treatment.	Result.
40	M.	57	Senile.	May 24, '73.	No anterior chamber at time of operation; increased tension.		23 days.	$v = \frac{20}{80}$. Sn. $1\frac{1}{2}$. (June 16.)
41	M.	64	Senile.	May 26, '73.	Normal.		12 days.	$v = \frac{20}{30}$. Sn. $1\frac{1}{2}$. (Sept. 11.)
42	M.	70	Senile.	June 4, '73.	Some cortical left behind.		16 days.	$v = \frac{15}{40}$. (July 20.)
43	F.	51	Senile.	June 4, '73.	Normal.	Granular disease of each eye of long standing. Muco-purulent discharge the day following operation. Panophthalmitis ensued.	42 days.	$v = \frac{1}{0}$. (July 16.)
44	F.	64	Senile.	June 7, '73.	Normal.		13 days.	$v = \frac{10}{80}$. (June 20.)
45	M.	68	Senile.	June 7, '73.	Normal.		19 days.	$v = \frac{20}{40}$. Sn. 2 (June 26.)
46	F.	47	Senile.	June 17. '73.	Normal.	Large patch of sclerotico-choroiditis posterior subsequently discovered.	11 days.	$v = \frac{5}{20}$. (July 26.)

47	F.	55	Senile.	June 18, '73.	Normal.		18 days.	v = $\frac{14}{30}$. (July 6.)
48	M.	60	Senile.	June 19, '73.	Normal.	Patient generally rheumatic, fingers all distorted. Iritis came on on 8th day, nearly closing pupil. To return for secondary operation.	15 days.	v = $\frac{2}{100}$. (Aug. 28.)
49	F.	48	Senile.	July 2, '73.	Normal.		20 days.	v = $\frac{20}{60}$. Sn. 3 (Sept. 16.)
50	M.	24	Shrunken.	July 11, '73.	Normal.		19 days.	v = $\frac{20}{60}$. (Aug. 8.)
51	M.	60	Senile.	July 21, '73.	Normal.	Very unruly; insisted on leaving bed a few hours after operation.	16 days.	v = $\frac{10}{80}$. (Aug. 3.)
52	M.	48	Senile (partially fluid).	July 23, '73.	Normal.		8 days.	v = $\frac{12}{50}$. (Oct. 15.)
53	M.	62	Senile.	July 23, '73.	Slight loss of vitreous.	Did well, and discharged Aug. 4; able to count fingers in 2′. Irido-choroiditis came on Aug. 7. Patient returned for consultation, and was then lost sight of.	12 days.	v = $\frac{1}{\infty}$. (Aug. 4.)
54	M.	34	Traumatic.	July 29, '73.	Cut small; scoop had to be used.		14 days.	v = $\frac{20}{100}$. Sn. 3. (Aug. 12.)

No.	Age.	Sex.	Nature of Cataract.	Date.	Operation.	Remarks.	Duration of Treatment.	Result.
55	M.	51	Senile (lens shrunken).	Aug. 4, '73.	Iris broke away from its attachments, and nearly all came away, though no force was used.		11 days.	$v = \frac{10}{80}$. (Aug. 30.)
56	F.	58	Senile.	Aug. 12, '73.	Some capsule left in pupil.		16 days.	$v = \frac{10}{200}$. (Aug. 28.)
57	F.	69	Senile.	Aug. 21, '73.	Normal.		13 days.	$v = \frac{10}{80}$. Sn. $6\frac{1}{2}$. (Sept. 3.)
58	M.	60	Senile.	Aug. 23, '73.	Normal.		15 days.	$v = \frac{15}{50}$. (Sept. 7.)
59	F.	48	Senile.	Sept. 4, '73.	Much capsule left behind.	Slight iritis followed at time of discharge, pupil blocked by capsule. Excellent perception of light. To return for secondary operation.	17 days.	$v = \frac{1}{\infty}$. (Sept. 21.)
60	M.	58	Senile.	Sept. 8, '73.	Normal.		20 days.	$v = \frac{20}{80}$. Sn. $1\frac{1}{2}$. (Sept. 28.)

61	M.	66	Senile.	Sept. 19, '73.	Normal.	Threatened general suppuration with difficulty averted. At discharge pupil closed. Excellent perception of light. To return for secondary operation.	33 days.	$v = \frac{1}{\infty}$. (Oct. 16.)
62	F.	55	Senile.	Sept. 5, '73.	Normal.	Iritis 5th day, had several relapses. Patient obliged to leave.	17 days.	$v = \frac{5}{80}$. (Sept. 22.)
63	M.	49	Senile.	Sept. 11, '73.	Normal.	Several violent attacks of pain during convalescence.	26 days.	$v = \frac{10}{30}$. (Oct. 7.)
64	M.	57	Senile.	Sept. 22, '73.	Normal.		17 days.	$v = \frac{20}{100}$. (Oct. 5.)
65	M.	27	Traumatic.	Sept. 17, '73.	Normal.		24 days.	
66	F.	63	Senile.	Sept. 23, '73.	Normal.		22 days.	$v = \frac{10}{100}$. (Oct. 15.)

STATISTICAL REPORT OF 1729 CASES OF DISEASES OF THE EAR.

Treated at the Massachusetts Charitable Eye and Ear Infirmary during the year 1873.

CLASSIFICATION.

Tumors of lobe	1
Abscess of auricle and meatus	21
Erysipelas “ “ “	1
Eczema “ “ “	36
Wounds “ “ “	2
Otalgia “ “ “	6
Obstruction of meatus from cerumen	249
Foreign bodies in meatus	11
Exostosis of meatus	2
Otitis externa circumscripta	21
Otitis externa diffusa	43
Aspergillus	3
Myringitis	33
Calcareous deposits in membrani tympani	7
Rupture of membrani tympani	3
Destruction of “ “	2
Perforation of “ “	10
Polypoid granulations on tympani	25
Otitis media purulenta	374
“ “ “ with abscess of mastoid process	4
“ “ “ with polypi	41
Otitis media catarrhalis chronica	574
Otitis media catarrhalis acuta	117

Otitis media catarrhalis serosa	9
Otitis interna s. labyrinthica	7
Otitis interna associated with injury to cranium .	4
Tinnitus aurium " " cerebral disease .	3
Otalgia neuralgica	19
Deaf mutes	17
Deaf-mutism in seq. cerebro-spinal meningitis .	26
Unfit	41
Unrecorded	16

NOTES BY C. J. BLAKE, M. D.

In the preceding table the number of cases classified exceeds that of the whole number of patients treated in the aural clinic, for the reason that two distinct diseases sometimes occurred in the same patient.

A comparison with the table of classification of last year shows, with one marked exception, very nearly the same proportion of cases under each heading. This exception is found under the heading, "Otitis interna," associated with cerebral disease, which has been made to include cases of deaf-mutism resulting from cerebro-spinal meningitis, there being but 4 cases recorded in the report of 1872, against 26 cases occurring during the present year. Of this number 37½ per cent were males, of an average age of 6½ years, and 62½ per cent females, of an average age of 4½ years. The majority of these patients came from Boston and its vicinity, and were brought to the Infirmary within a few months of the time when the loss of hearing was first noticed. In most of them the external and middle ears were in a comparatively healthy condition, and the loss of hearing total.

Among the more remarkable cases under the various headings may be mentioned the amputation of the right auricle in a man twenty-six years of age, who was thrown from a train of cars, a wheel cutting away the whole of the upper portion of the auricle close to the head, leaving only the tragus and a small part of the posterior wall of the concha. No diminution of hearing was noticed for some time after the accident, when the hearing began to decrease as the result of an affection of the middle ear, for relief from which he applied for treatment.

Under the heading "Wounds" is included the case of a man kicked by a horse eight days before admission, the blow being sufficient to cut open the cheek and throw him forcibly to the ground, the result being a blow upon the parietal eminence followed by hemorrhage from both ears, the quantity from the right ear being estimated at two ounces.

At time of admission the inferior anterior wall of the meatus was so much swollen as to block the passage; a small opening at the point of greatest swelling allowed the passage of a probe and the detection of loose bone; the force of the blow seemed to have been directed inward and backward, breaking away the anterior wall of the osseous meatus, while the subsequent fall resulted in a rupture of the membrana tympani of both the right and left ears. In 3 other cases of injury from blow or fall upon the occiput, rupture of the membrana tympani occurred in one or both ears, the accident being accompanied by more or less hemorrhage and subsequent serous discharge. In all, the membrana tympani healed with more or less diminution of hearing, and in 2 of the cases the continuance of severe tinnitus aurium and occasional vertigo and titubation gave evidence of more deeply-seated injury. The increase in number of patients is shown, especially in the cases of otitis media purulenta, there being 374 cases against 287 cases in the year ending Oct. 1, 1872. Of this number 64 per cent were males, of an average age of 18½ years, and 36 per cent females, of an average age of 18 years. Of the males, 25 per cent, and of the females, 30 per cent were under ten years of age. In this connection, with the increase in the whole number of cases of this disease, it is a noticeable fact that the average age at which patients applied for treatment is less, and also that the proportion of cases in which polypi and polypoid granulations occurred as a result of the disease, is very much diminished. In 1872 these complications occurred in about 40 per cent, and in this year in only about 17 per cent of the cases of otitis media purulenta. There have been, however, a larger number of cases this year in which the disease has implicated the mastoid process and in which it has been necessary to make free incisions for the purpose of relieving alarming symptoms. In all of these cases the operation has been successful in cutting short the duration of the disease.

Among other operations may be mentioned the increased number of cases of affection of the middle ear and membrana tympani, in which incision or puncture of the drumhead was practised, together with repeated paracentesis and division of the posterior fold of the membrana tympani in cases of anomalies of tension of that membrane.

The cases of vegetable parasitic growth, under the heading "Aspergillus," have been so classified in consequence of the absence, in all of the cases, of the subjective symptoms of myringomycosis aspergillina, the growth being found either upon impacted cerumen (one case of a. flavescens) or upon old, dried discharge; (two cases of a. nigricans) following an otitis media purulenta. In all the cases a removal of the soil upon which the plant was nourished terminated the disease.

Under the headings "Unfit" and "Unrecorded" are included cases belonging properly to other hospitals, and those having no claim upon the charity of this Institution.

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